

CLAIMS

WHAT IS CLAIMED IS:

1. A refrigeration apparatus, comprising (a) a refrigerant circuit (10) for execution of a vapor compression refrigeration cycle including a compressor (21), a heat source side heat exchanger (24), and a utilization side heat exchanger (33) which are connected by a refrigerant pipe and (b) a contaminant recovery receptacle (40) which is connected to the suction side of the compressor (21) by an inflow pipe (42) and an outflow pipe (43), for recovering contaminants in the recovery receptacle (40) by causing refrigerant to circulate in the refrigerant circuit (10) so that gaseous refrigerant flows into the recovery receptacle (40),

wherein the inflow pipe (42) has an exit end which opens downwardly or obliquely downwardly in the recovery receptacle (40) while, on the other hand, the outflow pipe (43) has an entrance end which is situated above the exit end of the inflow pipe (42) in the recovery receptacle (40).

2. The refrigeration apparatus of claim 1 wherein a baffle plate (44) against contaminants is so disposed as to be situated face to face with the entrance end of the outflow pipe (43) at a predetermined distance apart therefrom in the recovery receptacle (40).

3. The refrigeration apparatus of claim 1 comprising switching means (50) for switching the circulation of refrigerant in the refrigerant circuit (10) so that the refrigerant is either circulated to flow through the recovery receptacle (40), or circulated to bypass the recovery receptacle (40),

wherein the switching means (50) is made up of:

opening/closing valves (51, 52) disposed, respectively, in the inflow and outflow pipes (42, 43) of the recovery receptacle (40), and

an opening/closing valve (53) disposed between a connection part of the inflow pipe (42) and a connection part of the outflow pipe (43) of the recovery receptacle (40) in a refrigerant pipe on the suction side of the compressor (21).

5 4. The refrigeration apparatus of claim 1 wherein:

an auxiliary liquid for the recovery of contaminants is pre-stored in the recovery receptacle (40), and

the exit end of the inflow pipe (42) of the recovery receptacle (40) is situated at a predetermined distance apart from the storage surface of the contaminant-recovery auxiliary liquid.

10 5. The refrigeration apparatus of claim 1 comprising:

preliminary operation means (60) for causing refrigerant to circulate in the refrigerant circuit (10) for a predetermined length of time so that a two-phase refrigerant mixture of liquid refrigerant and gas refrigerant flows into the recovery receptacle (40),

15 and

recovery operation means (70) for causing refrigerant to circulate in the refrigerant circuit (10) so that upon completion of the operation of the preliminary operation means (60), gaseous refrigerant flows into the recovery receptacle (40).

20 6. The refrigeration apparatus of claim 5 wherein the preliminary operation means (60) increases the degree of opening of an expansion valve (32) disposed between the heat source side heat exchanger (24) and the utilization side heat exchanger (33).

25 7. The refrigeration apparatus of claim 5 wherein the preliminary operation means (60) stops a utilization side fan of the utilization side heat exchanger (33).

8. The refrigeration apparatus of claim 5 wherein the preliminary operation means (60) lowers the frequency of the compressor (21) to below a predetermined value.